

LISTING OF THE CLAIMS

Applicants hereby present the claims, their status in the application, and amendments thereto as indicated:

1. – 9. (Canceled)

10. (Currently Amended) ~~An artificial muscle~~ A system of artificial muscles comprising:
at least one a pair of muscle actuators, each muscle actuator comprising:
an inner bladder comprising a first end and a second end and the inner bladder being configured to communicate with be pressurized by a pneumatic source and to expand in a radial direction when pressurized,
a braided material wrapped over at least a substantial portion of around and coupled to ends of the inner bladder, wherein radial expansion of the inner bladder induces the braided material to contract the ends longitudinally, and
an end fitting attached to each of the first end and the second end, and
a mechanical device coupled in parallel with and between the ends of the inner bladder such that when the inner bladder is inflated, a compression force is generated on contraction of the braided material compresses the mechanical device, and when the inner bladder is deflated, a pushing force is generated by the mechanical device expands the ends longitudinally when the inner bladder is depressurized;
a knee brace, each muscle actuator being coupled to an opposite side of the knee brace;
a foot support, each muscle actuator being coupled to an opposite side of the foot support, wherein the muscle actuators are configured to be separately pressurizeable.

11. (Currently Amended) The artificial muscle of claim 10, wherein the at least one mechanical device is a shock absorber.

12. (Previously Presented) The artificial muscle of claim 11, wherein the shock absorber is a compression gas spring shock absorber.

13. (Previously Presented) The artificial muscle of claim 11, wherein the shock absorber is a locking compression gas spring shock absorber.
14. (Previously Presented) The artificial muscle of claim 10, wherein the mechanical device is a helical spring.
15. (Previously Presented) The artificial muscle of claim 14, wherein the helical spring is disposed over the inner bladder.
16. (Previously Presented) The artificial muscle of claim 14, wherein the helical spring is mounted inside the inner bladder.
17. (Previously Presented) The artificial muscle of claim 14, wherein the helical spring is adjacent the inner bladder.
18. (Previously Presented) The artificial muscle of claim 17, wherein the helical spring includes an adjustment clamp.
19. (Cancelled)
20. (Cancelled)
21. (Previously Presented) The artificial muscle of claim 14, wherein the helical spring is coupled to two mechanical connectors.
22. (Previously Presented) The artificial muscle of claim 21, wherein the two mechanical connectors are clamped to a telescoping structure.
23. (Previously Presented) The artificial muscle of claim 22, wherein the telescoping structure comprises a starting position, and wherein the two mechanical connectors clamp the helical spring in a compressed position when the telescoping structure is in the starting position.
24. (Previously Presented) The artificial muscle of claim 22, wherein the telescoping structure comprises a starting position, and wherein the two mechanical connectors

clamp the helical spring in a stretched position when the telescoping structure is in the starting position.

25. – 36. (Canceled)

37. (New) An artificial muscle system comprising:

- a first pivot member;
- a second pivot member coupled to the first pivot member at a pivot joint; and
- a pair of muscle actuators, each muscle actuator coupled to opposite sides of both the first and second pivot members at points distal from the pivot joint, and each muscle actuator comprising:
 - an inner bladder configured to be pressurized by a pneumatic source and to expand in a radial direction when pressurized, wherein the bladders of each muscle actuator are configured to be separately pressurizeable,
 - a braided material wrapped around and coupled to ends of the inner bladder, wherein radial expansion of the inner bladder induces the braided material to contract the ends longitudinally, and
 - a mechanical device coupled in parallel with and between the ends of the inner bladder such that contraction of the braided material compresses the mechanical device, and the mechanical device expands the ends longitudinally when the inner bladder is depressurized.

38. (New) The artificial muscle of claim 37, wherein the mechanical device is a shock absorber.

39. (New) The artificial muscle of claim 38, wherein the shock absorber is a compression gas spring shock absorber.

40. (New) The artificial muscle of claim 38, wherein the shock absorber is a locking compression gas spring shock absorber.

41. (New) The artificial muscle of claim 37, wherein the mechanical device is a helical spring.

42. (New) The artificial muscle of claim 41, wherein the helical spring is disposed over the inner bladder.
43. (New) The artificial muscle of claim 41, wherein the helical spring is mounted inside the inner bladder.
44. (New) The artificial muscle of claim 41, wherein the helical spring is adjacent the inner bladder.
45. (New) The artificial muscle of claim 44, wherein the helical spring includes an adjustment clamp.
46. (New) The artificial muscle of claim 41, wherein the helical spring is coupled to two mechanical connectors.
47. (New) The artificial muscle of claim 46, wherein the two mechanical connectors are clamped to a telescoping structure.
48. (New) The artificial muscle of claim 47, wherein the telescoping structure comprises a starting position, and wherein the two mechanical connectors clamp the helical spring in a compressed position when the telescoping structure is in the starting position.
49. (New) The artificial muscle of claim 47, wherein the telescoping structure comprises a starting position, and wherein the two mechanical connectors clamp the helical spring in a stretched position when the telescoping structure is in the starting position.